

SEQUENCE LISTING

&lt;110&gt; E. I. du Pont de Nemours and Company

&lt;120&gt; Homologs of MAR-binding Filament-like protein 1 (MFP1)

&lt;130&gt; BC1003 PCT

&lt;140&gt;

&lt;141&gt;

&lt;150&gt; 60/128,900

&lt;151&gt; 1999-04-12

&lt;160&gt; 26

&lt;170&gt; Microsoft Office 97

&lt;210&gt; 1

&lt;211&gt; 2168

&lt;212&gt; DNA

&lt;213&gt; Nicotiana tabacum

&lt;400&gt; 1

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| atggggagtt  | cttgttttcc  | ccaatctcca  | ctctctcatt  | ctctcttttc  | ttcttcatca | 60   |
| atatcttctt  | cccaatttac  | acccttgctt  | ttttcccaa   | gaaatgcgca  | aaaatgtaaa | 120  |
| aagaaaatgc  | cagctatggc  | atgtatacac  | tcgagagaatc | aaaaggaaag  | cgaattctgc | 180  |
| agcagaagaa  | cgattctttt  | cgtgggtttc  | tctgtttctc  | cacttctcag  | cttgagggca | 240  |
| aatgcttttg  | aaggcttgct  | agtagattct  | caagtaaaag  | cacagccgca  | gaaagaggag | 300  |
| acagagcaaa  | caatccaagg  | aaatgcagag  | aatcccttct  | tttctctact  | taatggactt | 360  |
| ggagtttttg  | gttcaggcgt  | gcttggttct  | ctttatgcct  | tggctcgaaa  | cgagaaggcc | 420  |
| gtttctgatg  | caaccattga  | atctatgaaa  | aataagctga  | aggagaaaga  | agccacattc | 480  |
| gtttcatgga  | gaagaaattc  | cagtctgagc  | tgctgaacga  | aagggatata  | cgaaataatc | 540  |
| aacttaagag  | ggcaggcgaa  | gaacggcaag  | ctctgggtaa  | ccaattgaat  | tcagcaaaga | 600  |
| gtacagtaac  | taaccttggt  | caggagctgc  | aaaaagaaaa  | acgaattgct  | gaagagctca | 660  |
| tagttcagat  | cgagggcctt  | caaaataacc  | tcatgcagat  | gaaggaggat  | aagaaaaaat | 720  |
| tgaggaggga  | gcttaaagag  | aagcttgatt  | tgatacaagt  | tctgcaagaa  | aagataactt | 780  |
| tacttactac  | agagatcaaa  | gataaagagg  | catctcttca  | gagtacaacc  | tctaaactag | 840  |
| ctgaaaaaga  | atcagaggta  | gataaattga  | gctcaatgta  | tcaggaatcc  | caggatcagc | 900  |
| tgatgaattt  | gacttcagaa  | atcaaagaac  | ttaaagtcga  | agtcagaaaa  | agagagagag | 960  |
| aactagagtt  | gaaacgtgaa  | tcagaagaca  | accttaattgt | gcgattaaat  | tctttgctcg | 1020 |
| ttgagagaga  | tgaatctaaa  | aaagagcttg  | atgctattca  | aaaggaatac  | agcgagttca | 1080 |
| agtccatttc  | agagaagaaa  | gtggcttctg  | atgccaaagt  | gttgggggaa  | caagaaaaga | 1140 |
| gactacacca  | gctcgaggaa  | caacttggca  | ctgcctcaga  | tgaagtacgc  | aaaaataatg | 1200 |
| tgctaatacgc | tgatctgact  | caagaaaaag  | aaaacttaag  | gagaatgctg  | gacgctgagc | 1260 |
| tggaaaacat  | aagcaagtgt  | aagctagagg  | tccaggttac  | tcaggaaaact | cttgagaaat | 1320 |
| ctagaagtga  | tgcttctgat  | atagcacaac  | aactacagca  | gtcgaggcat  | ctttgctcta | 1380 |
| agcttgaagc  | tgaggtttct  | aaacttcaga  | tggaattgga  | ggaaacaaga  | acatcattac | 1440 |
| ggaggaacat  | tgatgagaca  | aaacgtggtg  | cagagctctt  | agctgcggag  | ctgaccacta | 1500 |
| ctagggagct  | tctaaagaaa  | acaaatgaag  | aaatgcacac  | tatgtctcat  | gaactagcgg | 1560 |
| ctgttactga  | aaattgtgat  | aacttacaga  | cggagctagt  | tgatgtctac  | aagaaagcag | 1620 |
| aacgtgctgc  | tgatgaactg  | aaacaagaaa  | agaatattgt  | cgtgacactg  | gagaaagagc | 1680 |
| taacattttt  | ggaggctcaa  | attacaagag  | agaaagagtc  | acggaagaat  | ctggaagaag | 1740 |
| agctggaaag  | ggctacggaa  | tcacttgatg  | agatgaaccg  | aaatgctttt  | gcacttgcaa | 1800 |
| aggagcttga  | gcttgctaatt | tctcatattt  | ctagcctcga  | ggatgagaga  | gaagtgtctc | 1860 |
| aaaagtctgt  | ttctgagcag  | aaacaaattt  | ctcaagaatc  | ccgagaaaac  | cttgaagatg | 1920 |
| cccatagcct  | ggtaatgaaa  | cttggcaagg  | aacgcgagag  | tctggagaag  | agagcaaaga | 1980 |
| aattggaaga  | tgaaatggca  | tcagcaaaaag | gtgagatttt  | gcggctgcgg  | acccaagtaa | 2040 |
| attcggtaaa  | agctcctgtt  | aacaatgagg  | aaaaagttga  | agctggggaa  | aaggcagctg | 2100 |
| taacagtga   | gagaaccagg  | aggaggaaga  | ctgctactca  | gcctgcttct  | cagcaagaaa | 2160 |
| gctcatag    |             |             |             |             |            | 2168 |

&lt;210&gt; 2

&lt;211&gt; 721

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PCT/US00/09723

&lt;212&gt; PRT

&lt;213&gt; Nicotiana tabacum

&lt;400&gt; 2

Met Gly Ser Ser Cys Phe Pro Gln Ser Pro Leu Ser His Ser Leu Phe  
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Ser Ser Ser Ser Ile Ser Ser Ser Gln Phe Thr Pro Leu Leu Phe Ser  
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Pro Arg Asn Ala Gln Lys Cys Lys Lys Lys Met Pro Ala Met Ala Cys  
 35 40 45

Ile His Ser Glu Asn Gln Lys Glu Ser Glu Phe Cys Ser Arg Arg Thr  
 50 55 60

Ile Leu Phe Val Gly Phe Ser Val Leu Pro Leu Leu Ser Leu Arg Ala  
 65 70 75 80

Asn Ala Phe Glu Gly Leu Ser Val Asp Ser Gln Val Lys Ala Gln Pro  
 85 90 95

Gln Lys Glu Glu Thr Glu Gln Thr Ile Gln Gly Asn Ala Glu Asn Pro  
 100 105 110

Phe Phe Ser Leu Leu Asn Gly Leu Gly Val Phe Gly Ser Gly Val Leu  
 115 120 125

Gly Ser Leu Tyr Ala Leu Ala Arg Asn Glu Lys Ala Val Ser Asp Ala  
 130 135 140

Thr Ile Glu Ser Met Lys Asn Lys Leu Lys Glu Lys Glu Ala Thr Phe  
 145 150 155 160

Val Ser Met Glu Lys Lys Phe Gln Ser Glu Leu Leu Asn Glu Arg Asp  
 165 170 175

Ile Arg Asn Asn Gln Leu Lys Arg Ala Gly Glu Glu Arg Gln Ala Leu  
 180 185 190

Val Asn Gln Leu Asn Ser Ala Lys Ser Thr Val Thr Asn Leu Gly Gln  
 195 200 205

Glu Leu Gln Lys Glu Lys Arg Ile Ala Glu Glu Leu Ile Val Gln Ile  
 210 215 220

Glu Gly Leu Gln Asn Asn Leu Met Gln Met Lys Glu Asp Lys Lys Lys  
 225 230 235 240

Leu Gln Glu Glu Leu Lys Glu Lys Leu Asp Leu Ile Gln Val Leu Gln  
 245 250 255

Glu Lys Ile Thr Leu Leu Thr Thr Glu Ile Lys Asp Lys Glu Ala Ser  
 260 265 270

Leu Gln Ser Thr Thr Ser Lys Leu Ala Glu Lys Glu Ser Glu Val Asp  
 275 280 285

Lys Leu Ser Ser Met Tyr Gln Glu Ser Gln Asp Gln Leu Met Asn Leu  
 290 295 300

Thr Ser Glu Ile Lys Glu Leu Lys Val Glu Val Gln Lys Arg Glu Arg  
 305 310 315 320

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Glu Leu Glu Leu Lys Arg Glu Ser Glu Asp Asn Leu Asn Val Arg Leu  
 325 330 335  
 Asn Ser Leu Leu Val Glu Arg Asp Glu Ser Lys Lys Glu Leu Asp Ala  
 340 345 350  
 Ile Gln Lys Glu Tyr Ser Glu Phe Lys Ser Ile Ser Glu Lys Lys Val  
 355 360 365  
 Ala Ser Asp Ala Lys Leu Leu Gly Glu Gln Glu Lys Arg Leu His Gln  
 370 375 380  
 Leu Glu Glu Gln Leu Gly Thr Ala Ser Asp Glu Val Arg Lys Asn Asn  
 385 390 395 400  
 Val Leu Ile Ala Asp Leu Thr Gln Glu Lys Glu Asn Leu Arg Arg Met  
 405 410 415  
 Leu Asp Ala Glu Leu Glu Asn Ile Ser Lys Leu Lys Leu Glu Val Gln  
 420 425 430  
 Val Thr Gln Glu Thr Leu Glu Lys Ser Arg Ser Asp Ala Ser Asp Ile  
 435 440 445  
 Ala Gln Gln Leu Gln Gln Ser Arg His Leu Cys Ser Lys Leu Glu Ala  
 450 455 460  
 Glu Val Ser Lys Leu Gln Met Glu Leu Glu Glu Thr Arg Thr Ser Leu  
 465 470 475 480  
 Arg Arg Asn Ile Asp Glu Thr Lys Arg Gly Ala Glu Leu Leu Ala Ala  
 485 490 495  
 Glu Leu Thr Thr Thr Arg Glu Leu Leu Lys Lys Thr Asn Glu Glu Met  
 500 505 510  
 His Thr Met Ser His Glu Leu Ala Ala Val Thr Glu Asn Cys Asp Asn  
 515 520 525  
 Leu Gln Thr Glu Leu Val Asp Val Tyr Lys Lys Ala Glu Arg Ala Ala  
 530 535 540  
 Asp Glu Leu Lys Gln Glu Lys Asn Ile Val Val Thr Leu Glu Lys Glu  
 545 550 555 560  
 Leu Thr Phe Leu Glu Ala Gln Ile Thr Arg Glu Lys Glu Ser Arg Lys  
 565 570 575  
 Asn Leu Glu Glu Glu Leu Glu Arg Ala Thr Glu Ser Leu Asp Glu Met  
 580 585 590  
 Asn Arg Asn Ala Phe Ala Leu Ala Lys Glu Leu Glu Leu Ala Asn Ser  
 595 600 605  
 His Ile Ser Ser Leu Glu Asp Glu Arg Glu Val Leu Gln Lys Ser Val  
 610 615 620  
 Ser Glu Gln Lys Gln Ile Ser Gln Glu Ser Arg Glu Asn Leu Glu Asp  
 625 630 635 640  
 Ala His Ser Leu Val Met Lys Leu Gly Lys Glu Arg Glu Ser Leu Glu  
 645 650 655

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Lys Arg Ala Lys Lys Leu Glu Asp Glu Met Ala Ser Ala Lys Gly Glu  
660 665 670

Leu Arg Leu Arg Thr Gln Val Asn Ser Val Lys Ala Pro Val Asn Asn  
675 680 685

Glu Glu Lys Val Glu Ala Gly Glu Lys Ala Ala Val Thr Val Lys Arg  
690 695 700

Thr Arg Arg Arg Lys Thr Ala Thr Gln Pro Ala Ser Gln Gln Glu Ser  
705 710 715 720

Ser

<210> 3  
 <211> 1199  
 <212> DNA  
 <213> Nicotiana tabacum

<400> 3

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| atgaatctaa | aaaagagctt | gatgctattc  | aaaaggaata | cagcgagttc | aagtcattt  | 120  |
| cagagaagag | agtggcttca | gatgccaaagc | tggtggggga | acaagaaaag | agactacacc | 180  |
| agctcgagga | acaacttggt | actgccgtaa  | gtgaagtaag | aaaaaatata | gtgctaattg | 240  |
| ctaatttgac | tcaagcaaaa | gaaaacctaa  | ggagaatgct | ggacgctgag | ctggaaaatg | 300  |
| taagcaagtt | gaagctagag | gtccagggtta | ctcaggaaac | tcttgagaaa | tcaagaagtg | 360  |
| aagcttctga | tatagtagaa | caactacagc  | agtcgaggca | cttgtgctct | aagcttgaag | 420  |
| ctgaggtttc | taagcttcag | atggaattgg  | aggaaacaag | gacattgtta | cagaagaaca | 480  |
| ttgatgagac | aaaacgtggt | gcagagttct  | tagctgcgga | gctgaccact | actagggagc | 540  |
| ttctaaagaa | aacaaatgaa | gaaatgcaca  | ccatatccaa | tgaactagct | gctgttactg | 600  |
| aaaatcgtga | taacttacag | acggagctag  | ttgatgtcta | caagaaagca | gaacgtgctg | 660  |
| ttaatgaact | gaaacaagaa | aagaatattg  | tcgtgacatt | ggagaaagag | ctaactttt  | 720  |
| tggaggctca | aattacaaga | gagaaagagt  | cacggaagaa | tctggaagaa | gagttggaaa | 780  |
| gggctacaga | atcacttgat | gagatgaaca  | gaaatgcttt | tgcacttgca | aaggagctgg | 840  |
| agctcgctaa | ttctcgtatt | tctagcctca  | aagacgagag | agaagtgtct | caaaagtctg | 900  |
| tttctgagca | gaagcaaatt | tctcaagaag  | cccgagaaaa | ccttgaagat | gccccatagc | 960  |
| tggtgatgaa | acttggcaag | gaacgcgaga  | gtctggagaa | gagagcaaag | aaattggaag | 1020 |
| atgaaatggc | atcagcaaaa | ggtgagattt  | tgcggttgcg | gacacaagta | aattcggtta | 1080 |
| aagctcctgt | taacaaagag | gaaaaagttg  | aagctgggga | aaaggcaaca | gtaacagtga | 1140 |
| agagaacaac | caggaggagg | aagactgcta  | ctcctgcttc | tcaacaagaa | ggctcataa  | 1199 |

<210> 4  
 <211> 398  
 <212> PRT  
 <213> Nicotiana tabacum

<400> 4

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| Arg Cys Glu Ser Glu Asp Asn Leu Asn Val Gln Leu Asn Ser Leu Leu | 1  | 5  | 10 | 15 |
| Val Glu Arg Asp Glu Ser Lys Lys Glu Leu Asp Ala Ile Gln Lys Glu | 20 | 25 | 30 |    |
| Tyr Ser Glu Phe Lys Ser Ile Ser Glu Lys Arg Val Ala Ser Asp Ala | 35 | 40 | 45 |    |
| Lys Leu Leu Gly Glu Gln Glu Lys Arg Leu His Gln Leu Glu Glu Gln | 50 | 55 | 60 |    |
| Leu Gly Thr Ala Val Ser Glu Val Arg Lys Asn Lys Val Leu Ile Ala | 65 | 70 | 75 | 80 |

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Asn Leu Thr Gln Ala Lys Glu Asn Leu Arg Arg Met Leu Asp Ala Glu  
                     85                                    90                                    95  
 Leu Glu Asn Val Ser Lys Leu Lys Leu Glu Val Gln Val Thr Gln Glu  
                     100                                    105                                    110  
 Thr Leu Glu Lys Ser Arg Ser Glu Ala Ser Asp Ile Val Glu Gln Leu  
                     115                                    120                                    125  
 Gln Gln Ser Arg His Leu Cys Ser Lys Leu Glu Ala Glu Val Ser Lys  
                     130                                    135                                    140  
 Leu Gln Met Glu Leu Glu Glu Thr Arg Thr Leu Leu Gln Lys Asn Ile  
                     145                                    150                                    155                                    160  
 Asp Glu Thr Lys Arg Gly Ala Glu Leu Leu Ala Ala Glu Leu Thr Thr  
                     165                                    170                                    175  
 Thr Arg Glu Leu Leu Lys Lys Thr Asn Glu Glu Met His Thr Ile Ser  
                     180                                    185                                    190  
 Asn Glu Leu Ala Ala Val Thr Glu Asn Arg Asp Asn Leu Gln Thr Glu  
                     195                                    200                                    205  
 Leu Val Asp Val Tyr Lys Lys Ala Glu Arg Ala Val Asn Glu Leu Lys  
                     210                                    215                                    220  
 Gln Glu Lys Asn Ile Val Val Thr Leu Glu Lys Glu Leu Thr Phe Leu  
                     225                                    230                                    235                                    240  
 Glu Ala Gln Ile Thr Arg Glu Lys Glu Ser Pro Lys Asn Leu Glu Glu  
                     245                                    250                                    255  
 Glu Leu Glu Arg Ala Thr Glu Ser Leu Asp Glu Met Asn Arg Asn Ala  
                     260                                    265                                    270  
 Phe Ala Leu Ala Lys Glu Leu Glu Leu Ala Asn Ser Arg Ile Ser Ser  
                     275                                    280                                    285  
 Leu Lys Asp Glu Arg Glu Val Leu Gln Lys Ser Val Ser Glu Gln Lys  
                     290                                    295                                    300  
 Gln Ile Ser Gln Glu Ala Arg Glu Asn Leu Glu Asp Ala His Ser Leu  
                     305                                    310                                    315                                    320  
 Val Met Lys Leu Gly Lys Glu Arg Glu Ser Leu Glu Lys Arg Ala Lys  
                     325                                    330                                    335  
 Lys Leu Glu Asp Glu Met Ala Ser Ala Lys Gly Glu Ile Leu Arg Leu  
                     340                                    345                                    350  
 Arg Thr Gln Val Asn Ser Val Lys Ala Pro Val Asn Lys Glu Glu Lys  
                     355                                    360                                    365  
 Val Glu Ala Gly Glu Lys Ala Thr Val Thr Val Lys Arg Thr Thr Arg  
                     370                                    375                                    380  
 Arg Arg Lys Thr Ala Thr Pro Ala Ser Gln Gln Glu Gly Ser  
                     385                                    390                                    395

<210> 5  
 <211> 588  
 <212> DNA  
 <213> Lycopersicon esculentum

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tacagagatc aaagataaag aggtgagtct tcggagtaac acctctaaac tagctgaaaa 120
agaatcggag gtaaatagtt tgagcgatat gtatcaacaa tcccaggatc agctgatgaa 180
tttgacttca gagatcaaag aacttaaaga tgaaatccag aaaagagaga gagaactgga 240
gttgaaatgt gtatcagaag acaacctgaa tgtgcaatta aattctttgc tcctcgagag 300
agatgaatct aaaaaagagc ttcatgctat tcaaaaggaa tacagtgagt tcaagtccaa 360
ttctgatgag aaggtggcct cagatgcgaa gctgttgggg gaacaagaga agagactaca 420
ccagcttgag gaacaacttg gcactgcctt aagtgaagca agtaaaaatg aagtgcta 480
tgctgatctg actcgagaaa aagaaaacct taggagaatg gtggatgctg agctggacaa 540
tgtaaacaag ttaaagcaag agattgaagt cactcaggaa agtcttga 588

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<210> 6
<211> 195
<212> PRT
<213> Lycopersicon esculentum

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Thr Leu Leu Thr Thr Glu Ile Lys Asp Lys Glu Val Ser Leu Arg Ser
20 25 30
Asn Thr Ser Lys Leu Ala Glu Lys Glu Ser Glu Val Asn Ser Leu Ser
35 40 45
Asp Met Tyr Gln Gln Ser Gln Asp Gln Leu Met Asn Leu Thr Ser Glu
50 55 60
Ile Lys Glu Leu Lys Asp Glu Ile Gln Lys Arg Glu Arg Glu Leu Glu
65 70 75 80
Leu Lys Cys Val Ser Glu Asp Asn Leu Asn Val Gln Leu Asn Ser Leu
85 90 95
Leu Leu Glu Arg Asp Glu Ser Lys Lys Glu Leu His Ala Ile Gln Lys
100 105 110
Glu Tyr Ser Glu Phe Lys Ser Asn Ser Asp Glu Lys Val Ala Ser Asp
115 120 125
Ala Lys Leu Leu Gly Glu Gln Glu Lys Arg Leu His Gln Leu Glu Glu
130 135 140
Gln Leu Gly Thr Ala Leu Ser Glu Ala Ser Lys Asn Glu Val Leu Ile
145 150 155 160
Ala Asp Leu Thr Arg Glu Lys Glu Asn Leu Arg Arg Met Val Asp Ala
165 170 175
Glu Leu Asp Asn Val Asn Lys Leu Lys Gln Glu Ile Glu Val Thr Gln
180 185 190
Glu Ser Leu
195

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<210> 7
<211> 662
<212> DNA
<213> Lycopersicon esculentum

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atgaactgaa acaagaaaag agcattgttg caacactaga agaagagtta aaatttctgg 180  
agtctcaaat tacacgagag aaagagttac ggaagagtct ggaagacgag ttagaaaagg 240  
ctacagaatc tcttgatgag attaaccgaa atgtgttggc acttgcagag gagctggagc 300  
ttgctacttc tcgtaattct agcctcgaag acgagagaga agtgctccga cagtctgttt 360  
ctgagcagaa gcaaatttca caagaagccc aagaaaatct ggaagacgcc catagcctgg 420  
tgatgaaact tggcaaggaa cgcgaaagtc ttgagaagag agcaaagaaa ttggaagatg 480  
aaatggcagc agcaaaaggt gagattttgc ggctacggag ccaaataaac tcagtaaaag 540  
ctccagtggg ggatgaggaa aaagttgttg ctggggaaaa ggaaaagggtg aaggcaacag 600  
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<210> 8  
<211> 226  
<212> PRT  
<213> Lycopersicon esculentum

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20 25 30  
Thr Glu Leu Val Asp Val Tyr Lys Lys Ala Glu His Thr Ala Asn Glu  
35 40 45  
Leu Lys Gln Glu Lys Ser Ile Val Ala Thr Leu Glu Glu Glu Leu Lys  
50 55 60  
Phe Leu Glu Ser Gln Ile Thr Arg Glu Lys Glu Leu Arg Lys Ser Leu  
65 70 75 80  
Glu Asp Glu Leu Glu Lys Ala Thr Glu Ser Leu Asp Glu Ile Asn Arg  
85 90 95  
Asn Val Leu Ala Leu Ala Glu Glu Leu Glu Leu Ala Thr Ser Arg Asn  
100 105 110  
Ser Ser Leu Glu Asp Glu Arg Glu Val Leu Arg Gln Ser Val Ser Glu  
115 120 125  
Gln Lys Gln Ile Ser Gln Glu Ala Gln Glu Asn Leu Glu Asp Ala His  
130 135 140  
Ser Leu Val Met Lys Leu Gly Lys Glu Arg Glu Ser Leu Glu Lys Arg  
145 150 155 160  
Ala Lys Lys Leu Glu Asp Glu Met Ala Ala Lys Gly Glu Ile Leu  
165 170 175  
Arg Leu Arg Ser Gln Ile Asn Ser Val Lys Ala Pro Val Glu Asp Glu  
180 185 190  
Glu Lys Val Val Ala Gly Glu Lys Glu Lys Val Lys Ala Thr Val Thr  
195 200 205  
Ala Lys Lys Thr Thr Arg Arg Arg Lys Ser Ala Thr Val Lys Gln Glu  
210 215 220  
Glu Pro  
225

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<210> 9  
 <211> 1694  
 <212> DNA  
 <213> Lycopersicon esculentum

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 aaagaatcgg aggtaaatag tttgagcgat atgtatcaac aatcccagga tcagctgatg 180  
 aatttgactt cagagatcaa agaacttaaa gatgaaatcc agaaaagaga gagagaactg 240  
 gagttgaaat gtgtatcaga agacaacctg aatgtgcaat taaattcttt gctcctcgag 300  
 agagatgaat ctaaaaaaga gcttcatgct attcaaaagg aatacagtga gttcaagtcc 360  
 aattctgatg agaaggtggc ttcagatgag aagctgttg gggacaaga gaagagacta 420  
 caccagcttg aggaacaact tggcactgcc ttaagtgaag caagtaaaaa tgaagtgcta 480  
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 aatgtaaaaca agttaaaagca agagattgaa gtcactcagg aaagtcttga gaattcaaga 600  
 agtgaagttt ctgatataac agtacaacta gagcagttga gggatctttg ctccaaactt 660  
 gaagctgagg tttctaaact tcagatggaa ttggaggaaa caagggcatc attacagagg 720  
 aacattgatg aaacaaaaaca cagttcagag ctcttagctg ctgagttgac cactactaag 780  
 gagcttctaa agaaaaacaaa tgaagaaatg cacactatgt cagatgaact agtagctgtt 840  
 tctgaaaatc gtgatagctt acagacagag ctagttgatg tctataagaa agcagaacat 900  
 actgctaatt aactgaaaca agaaaagagc attgttgcaa cactagaaga agagttaaaa 960  
 tttctggagt ctcaaattac acgagagaaa gagttacgga agagtctgga agacgagttt 1020  
 gaaaaggcta cagaatctct tgatgagatt aaccgaaatg tgttggcact tgcagaggag 1080  
 ctggagcttg ctacttctcg taattctagc ctggaagacg agagagaagt gctccgacag 1140  
 tctgtttctg agcagaagca aatttcacaa gaagcccaag aaaatctgga agacgcccat 1200  
 agcctggtga tgaactttgg caaggaacgc gaaagtcttg agaagagagc aaagaaattg 1260  
 gaagatgaaa tggcagcagc aaaaggtgag attttgcggc tacggagcca aataaactca 1320  
 gtaaaagctc cagtgaggga tgaggaaaaa gttgttgctg gggaaaagga aaaggtgaag 1380  
 gcaacagtaa cagcaaagaa aactaccagg agaaggaaga gtgctactgt taagcaagag 1440  
 gaaccctagt tggctgtttc tgaatgacat aatcttcttc tttttttgtc ctgactcatt 1500  
 tgtttgcaat atttatagag agccagaat taggacattg ccatttgaac aagctgtgta 1560  
 ttgtctcttt gagtgtacat ttcccggcga gaagttgcag aaacaaatga ctgatctctt 1620  
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 aaaaaaaaaa aaaa 1694

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 <211> 1009  
 <212> DNA  
 <213> Lycopersicon esculentum

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 cggttatggc gagtatgcac tcggaaaatc aaaaggaaaag taatgtctgc aacagaagat 180  
 cgattctatt tgtgggattc tcagttcttc cacttctcaa tttgagggca agagctctcg 240  
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 aaggaagtgc agggaaatccc ttcgtttctc tacttaattg acttgggtgtt gttggttcag 360  
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 gccttcaaaa tgacctcatg aatacgaagg aggataagaa gaaattgcag gaagagctta 720  
 aagagaagct tgatttgatt caagttcttg aagaaaagat tactttgctt actacagaga 780  
 tcaaagataa agagggtgagt cttcggagta acacctctaa actagctgaa aaagaatcgg 840  
 aggtaaatag tttgagcgat atgtatcaac aatcccagga tcagctgatg aatttgactt 900  
 cagagatcaa agaacttaaa gatgaaatcc agaaaagaga gagagaactg gagttgaaat 960  
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<210> 11  
 <211> 1103



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<212> DNA  
<213> *Nicotiana tabacum*

<400> 11  
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 acattgttac agaagaacat tgatgagaca aaacgtggtg cagagttctt agctgcggag 180  
 ctgaccacta ctagggagct tctaaagaaa acaaatgaag aaatgcacac catatccaat 240  
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 aagaaagcag aacgtgctgt taatgaactg aaacaagaaa agaattattg ctgtgacattg 360  
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 gaagtgtctc aaaagtctgt ttctgagcag aagcaaattt ctcaagaagc ccgagaaaaac 600  
 cttgaagatg cccatagcct ggtgatgaaa cttggcaagg aacgcgagag tctggagaag 660  
 agagcaaaaga aattggaaga tgaaatggca tcagcaaaaag gtgagatttt gcggttgccg 720  
 acacaagtaa attcggtaaa agctcctgtt aacaaagagg aaaaagttga agctggggaa 780  
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 caacaagaag gctcataatt tgctgtttct gaagtgcac atatccttcc ttttttctt 900  
 gactcatatt aattgcaacg agggtagatt attggttcat tatataaaac cagaatgagg 960  
 atattgcctt tgtaagaaac ttcttgcaag ctgtattctc agtgagtaaa tttccaggcg 1020  
 agaagttgcc caaataaatg agatattatt gttgcaagta ccaaatttgg aagggattgt 1080  
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 <211> 912  
 <212> DNA  
 <213> *Nicotiana tabacum*

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 attgtgataa cttacagacg gagctagtgt atgtctacaa gaaagcagaa cgtgctgctg 180  
 atgaactgaa acaagaaaag aatattgtcg tgacactgga gaaagagcta acatttttgg 240  
 aggctcaaatt tacaagagag aaagagtcac ggaagaatct ggaagaagag ctggaaaagg 300  
 ctacggaatc acttgatgag atgaaccgaa atgcttttgc acttgcaaaag gagcttgagc 360  
 ttgctaattc tcatatttct agcctcgagg atgagagaga agtgctcaa aagtcgtgtt 420  
 ctgagcagaa acaaatttct caagaatccc gagaaaacct tgaagatgcc catagcctgg 480  
 taatgaaact tggcaaggaa cgcgagagtc tggagaagag agcaaaagaaa ttggaagatg 540  
 aaatggcctc agcaaaagggt gagattttgc ggctgcggac ccaagtaaat tccgtaaaaag 600  
 ctctgtttaa caatgaggaa aaagtgtgaag ctggggaaaaa ggcagctgta acagtgaaga 660  
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 ctgttctaaa gtgacataatc tttccttttt gtccctgact caaattgatt gcgacgagaa 780  
 tagattaatg gtgtattata gagaagccag aattagcata ttgcccttgt aagaaacttc 840  
 ctgcaagctg tattctcagt gagtgtatat ttccagggtga gaagttgcac aaacaaaaaa 900  
 aaaaaaaaaa aa 912

<210> 13  
 <211> 905  
 <212> DNA  
 <213> *Nicotiana tabacum*

<400> 13  
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 atgaatctaa aaaagagctt gatgctattc aaaaggaata cagcgagttc aagtccattt 120  
 cagagaagag agtggcttca gatgccaagc tgttggggga acaagaaaag agactacacc 180  
 agctcgagga acaacttgggt actgccgtaa gtgaagtaag aaaaaataaa gtgctaattg 240  
 ctaatttgac tcaagcaaaa gaaaacctaa ggagaatgct ggacgctgag ctggaaaatg 300  
 taagcaagtt gaagctagag gtccaggtta ctacaggaaac tcttgagaaa tcaagaagtg 360  
 aagcttctga tatagtagaa caactacagc agtcgaggca tctttgctct aagcttgaag 420  
 ctgaggtttc taagcttcag atggaattgg aggaacaacg gacattgtta cagaagaaca 480  
 ttgatgagac aaaacgtggt gcagagctct tagctgcgga gctgaccact actagggagc 540  
 ttctaaagaa aacaaatgaa gaaatgcaca ccatatccaa tgaactagct gctgttactg 600  
 aaaatcgtga taacttacag acggagctag ttgatgtcta caagaaagca gaacgtgctg 660

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|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| ttaatgaact | gaaacaagaa | aagaatattg | tcgtgacatt | ggagaaagag | ctaacatttt | 720 |
| tggaggctca | aattacaaga | gagaaagagt | caccgaagaa | tctggaagaa | gagttggaaa | 780 |
| gggctagctc | gcttaagtac | aggagatgga | gaatccaccg | aagaatgaag | tagtggcaga | 840 |
| tcatctgcgt | ccaagcaagt | tacttcacca | acagaaaact | tggatttgta | cctgcctgct | 900 |
| ctccg      |            |            |            |            |            | 905 |

<210> 14  
 <211> 1597  
 <212> DNA  
 <213> *Nicotiana tabacum*

|            |            |             |             |            |            |      |
|------------|------------|-------------|-------------|------------|------------|------|
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| cggcctctga | aatcttcttc | tttttatcac  | tttcggagt   | gaaatcggga | gaaaccaacc | 60   |
| aactttgtaa | tggggagttc | ttgttttccc  | caatctccac  | tctctcattc | tctcttttct | 120  |
| tcttcatcaa | tatcttcttc | ccaatttaca  | cccttgcttt  | tttccccaag | aaatgcgcaa | 180  |
| aaatgtaaaa | agaaaatgcc | agctatggca  | tgtatacact  | cggagaatca | aaaggaaagc | 240  |
| gaattctgca | gcagaagaac | gattcttttc  | gtgggtttct  | ctgttcttcc | acttctcagc | 300  |
| ttgagggcaa | atgcttttga | aggcttgtca  | gtagattctc  | aagtaaaagc | acagccgcag | 360  |
| aaagaggaga | cgagcaacaa | tccaaggaaa  | tgcagagaat  | cccttctttt | ctctacttaa | 420  |
| tggacttggg | gtttttggtt | caggcgtgct  | tggttctctt  | tatgccttgg | ctcgaaacga | 480  |
| gaaggccgtt | tctgatgcaa | ccattgaatc  | tatgaaaaat  | aagctgaagg | agaaagaagc | 540  |
| cacattcgtt | tcatggagaa | gaaattccag  | tctgagctgc  | tgaacgaaa  | ggatatacga | 600  |
| aataatcaac | ttaagagggc | aggcgaagaa  | cggcaagctc  | tggttaacca | attgaattca | 660  |
| gcaaagagta | cagtaactaa | ccttggtcag  | gagctgcaaa  | aagaaaaacg | aattgctgaa | 720  |
| gagctcatag | ttcagatcga | gggccttcaa  | aataacctca  | tgcagatgaa | ggaggataag | 780  |
| aaaaaattgc | aggaggagct | taaaagagaag | cttgatttga  | tacaagttct | gcaagaaaag | 840  |
| ataactttac | ttactacaga | gatcaaagat  | aaagaggcat  | ctcttcagag | tacaacctct | 900  |
| aaactagctg | aaaaagaatc | agaggtagat  | aaattgagct  | caatgtatca | ggaatcccag | 960  |
| gatcagctga | tgaatttgac | ttcagaaaatc | aaagaactta  | aagtcgaagt | ccagaaaaga | 1020 |
| gagagagaac | tagagttgaa | acgtgaatca  | gaagacaacc  | ttaatgtgct | attaaattct | 1080 |
| ttgctcgttg | agagagatga | atctaaaaaa  | gagcttgatg  | ctattcaaaa | ggaatacagc | 1140 |
| gagttcaagt | ccatttcaga | gaagaaagt   | gcttctgatg  | ccaagctgtt | gggggaacaa | 1200 |
| gaaaagagac | tacaccagct | cgaggaacaa  | cttggcactg  | cctcagatga | agtacgcaaa | 1260 |
| aataatgtgc | taatcgctga | tctgactcaa  | gaaaaagaaa  | acttaaggag | aatgctggac | 1320 |
| gctgagctgg | aaaacataag | caagttgaag  | ctagagggtcc | aggttactca | ggaaactctt | 1380 |
| gagaaatcta | gaagtgatgc | ttctgatata  | gcacaacaac  | tacagcagtc | gaggcatctt | 1440 |
| tgctctaagc | ttgaagctga | ggtttctaaa  | cttcagatgg  | aattggagga | aacaagaaca | 1500 |
| tcattacgga | ggaacattga | tgagacaaaa  | cgtggtgcag  | agctcttagc | tgcgagctg  | 1560 |
| accactacta | gggagcttct | aaagaaaaaa  | aaaaaag     |            |            | 1597 |

<210> 15  
 <211> 564  
 <212> DNA  
 <213> *Nicotiana tabacum*

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| <400> 15    |            |            |            |            |            |     |
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| ctgactcaag  | aaaaagaaaa | cttaaggaga | atgctggacg | ctgagctgga | aaacataagc | 120 |
| aagttgaagc  | tagaggtcca | ggttactcag | gaaactcttg | agaaatctag | aagtgatgct | 180 |
| tctgatatag  | cacaacaact | acagcagtcg | aggcatcttt | gctctaagct | tgaagctgag | 240 |
| gttttctaaac | ttcagatgga | attggaggaa | acaagaacat | cattacggag | gaacattgat | 300 |
| gagacaaaaac | gtggtgcaga | gctcttagct | gcgagactga | ccactactag | ggagcttcta | 360 |
| aagaaaaacaa | atgaagaaat | gcacactatg | tctcatgaac | tagcggctgt | tactgaaaat | 420 |
| tgtgataact  | tacagacgga | gctagttgat | gtctacaaga | aagcagaacg | tgctgctgat | 480 |
| gaactgaaac  | aagaaaagaa | tattgtcgtg | acactggaga | aagagctaac | atttttggag | 540 |
| gctcaaatta  | caagagagaa | agag       |            |            |            | 564 |

<210> 16  
 <211> 2154  
 <212> DNA  
 <213> *Lycopersicon esculentum*

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atggcgagta tgcactcgga aaatcaaaaag gaaagtaatg tctgcaacag aagatcgatt 180
ctatttgtgg gattctcagt tcttccactt ctcaatttga gggcaagagc tctcgaaggc 240
ttgtcaacag attctcaagc acagccgcag aaagaggaaa ccgagcaaac aatccaagga 300
agtgcaggga atcccttcgt ttctctactt aatggacttg gtgtgttggt ttcaggcggtg 360
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gagtccgaat tgctgagcga aagggaagat cgaaataagc taattaggcg agaaggtgaa 540
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aatagtttga gcgatatgta tcaacaatcc caggatcagc tgatgaattt gacttcagag 900
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<210> 17
<211> 717
<212> PRT
<213> Lycopersicon esculentum

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Cys Ser Ser Gln Phe Thr Pro Leu Leu Ser Cys Pro Arg Asn Thr Gln
 20          25          30

Ile Cys Arg Lys Lys Arg Pro Val Met Ala Ser Met His Ser Glu Asn
 35          40          45

Gln Lys Glu Ser Asn Val Cys Asn Arg Arg Ser Ile Leu Phe Val Gly
 50          55          60

Phe Ser Val Leu Pro Leu Leu Asn Leu Arg Ala Arg Ala Leu Glu Gly
 65          70          75          80

Leu Ser Thr Asp Ser Gln Ala Gln Pro Gln Lys Glu Glu Thr Glu Gln
 85          90          95

Thr Ile Gln Gly Ser Ala Gly Asn Pro Phe Val Ser Leu Leu Asn Gly
100          105          110

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Leu Gly Val Val Gly Ser Gly Val Leu Gly Ser Leu Tyr Ala Leu Ala  
 115 120 125  
 Arg Asn Glu Lys Ala Val Ser Asp Ala Thr Ile Glu Ser Met Lys Asn  
 130 135 140  
 Lys Leu Lys Asp Lys Glu Asp Ala Phe Val Ser Met Lys Lys Gln Phe  
 145 150 155 160  
 Glu Ser Glu Leu Leu Ser Glu Arg Glu Asp Arg Asn Lys Leu Ile Arg  
 165 170 175  
 Arg Glu Gly Glu Glu Arg Gln Ala Leu Val Asn Gln Leu Lys Ser Ala  
 180 185 190  
 Lys Thr Thr Val Ile Ser Leu Gly Gln Glu Leu Gln Asn Glu Lys Lys  
 195 200 205  
 Leu Ala Glu Asp Leu Lys Phe Glu Ile Lys Gly Leu Gln Asn Asp Leu  
 210 215 220  
 Met Asn Thr Lys Glu Asp Lys Lys Lys Leu Gln Glu Glu Leu Lys Glu  
 225 230 235 240  
 Lys Leu Asp Leu Ile Gln Val Leu Glu Glu Lys Ile Thr Leu Leu Thr  
 245 250 255  
 Thr Glu Ile Lys Asp Lys Glu Val Ser Leu Arg Ser Asn Thr Ser Lys  
 260 265 270  
 Leu Ala Glu Lys Glu Ser Glu Val Asn Ser Leu Ser Asp Met Tyr Gln  
 275 280 285  
 Gln Ser Gln Asp Gln Leu Met Asn Leu Thr Ser Glu Ile Lys Glu Leu  
 290 295 300  
 Lys Asp Glu Ile Gln Lys Arg Glu Arg Glu Leu Glu Leu Lys Cys Val  
 305 310 315 320  
 Ser Glu Asp Asn Leu Asn Val Gln Leu Asn Ser Leu Leu Leu Glu Arg  
 325 330 335  
 Asp Glu Ser Lys Lys Glu Leu His Ala Ile Gln Lys Glu Tyr Ser Glu  
 340 345 350  
 Phe Lys Ser Asn Ser Asp Glu Lys Val Ala Ser Asp Ala Lys Leu Leu  
 355 360 365  
 Gly Glu Gln Glu Lys Arg Leu His Gln Leu Glu Glu Gln Leu Gly Thr  
 370 375 380  
 Ala Leu Ser Glu Ala Ser Lys Asn Glu Val Leu Ile Ala Asp Leu Thr  
 385 390 395 400  
 Arg Glu Lys Glu Asn Leu Arg Arg Met Val Asp Ala Glu Leu Asp Asn  
 405 410 415  
 Val Asn Lys Leu Lys Gln Glu Ile Glu Val Thr Gln Glu Ser Leu Glu  
 420 425 430  
 Asn Ser Arg Ser Glu Val Ser Asp Ile Thr Val Gln Leu Glu Gln Leu  
 435 440 445

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Arg Asp Leu Cys Ser Lys Leu Glu Ala Glu Val Ser Lys Leu Gln Met  
 450 455 460  
 Glu Leu Glu Glu Thr Arg Ala Ser Leu Gln Arg Asn Ile Asp Glu Thr  
 465 470 475 480  
 Lys His Ser Ser Glu Leu Leu Ala Ala Glu Leu Thr Thr Thr Lys Glu  
 485 490 495  
 Leu Leu Lys Lys Thr Asn Glu Glu Met His Thr Met Ser Asp Glu Leu  
 500 505 510  
 Val Ala Val Ser Glu Asn Arg Asp Ser Leu Gln Thr Glu Leu Val Asp  
 515 520 525  
 Val Tyr Lys Lys Ala Glu His Thr Ala Asn Glu Leu Lys Gln Glu Lys  
 530 535 540  
 Ser Ile Val Ala Thr Leu Glu Glu Glu Leu Lys Phe Leu Glu Ser Gln  
 545 550 555 560  
 Ile Thr Arg Glu Lys Glu Leu Arg Lys Ser Leu Glu Asp Glu Leu Glu  
 565 570 575  
 Lys Ala Thr Glu Ser Leu Asp Glu Ile Asn Arg Asn Val Leu Ala Leu  
 580 585 590  
 Ala Glu Glu Leu Glu Leu Ala Thr Ser Arg Asn Ser Ser Leu Glu Asp  
 595 600 605  
 Glu Arg Glu Val Leu Arg Gln Ser Val Ser Glu Gln Lys Gln Ile Ser  
 610 615 620  
 Gln Glu Ala Gln Glu Asn Leu Glu Asp Ala His Ser Leu Val Met Lys  
 625 630 635 640  
 Leu Gly Lys Glu Arg Glu Ser Leu Glu Lys Arg Ala Lys Lys Leu Glu  
 645 650 655  
 Asp Glu Met Ala Ala Ala Lys Gly Glu Ile Leu Arg Leu Arg Ser Gln  
 660 665 670  
 Ile Asn Ser Val Lys Ala Pro Val Glu Asp Glu Glu Lys Val Val Ala  
 675 680 685  
 Gly Glu Lys Glu Lys Val Lys Ala Thr Val Thr Ala Lys Lys Thr Thr  
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 705 710 715

<210> 18  
 <211> 407  
 <212> DNA  
 <213> Nicotiana tabacum

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 gcaagttgaa gctagaggtc caggttactc aggaactct tgagaaatct agaagtgatg 180  
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<210> 19  
 <211> 1491  
 <212> DNA  
 <213> Glycine max

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 aacttgccct aggtgaagca agcaaaagcc agatcgatcat tgctgattta tcccaacaaa 180  
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 aactccaagt taccctggag aatcttgcaa aatcaagaaa tgagtctgct gaattggaaa 300  
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 His Gln Leu Lys Asp Gln Phe Glu Leu Ala Leu Gly Glu Ala Ser Lys  
 35 40 45  
 Ser Gln Ile Val Ile Ala Asp Leu Ser Gln Gln Arg Asp Asp Leu Lys  
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 Glu Ala Leu Asp Asn Glu Ser Ser Lys Val Asn His Leu Lys Gln Glu  
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 Leu Gln Val Thr Leu Glu Asn Leu Ala Lys Ser Arg Asn Glu Ser Ala  
 85 90 95  
 Glu Leu Glu Asn Leu Leu Thr Leu Ser Asn Lys Leu Cys Lys Glu Leu  
 100 105 110  
 Glu Leu Glu Val Ser Lys Leu Ser Ser Glu Leu Thr Glu Val Asn Glu  
 115 120 125

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Ser Leu Gln Arg Asn Leu Asp Asp Ala Lys His Glu Ala Glu Met Leu  
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Ala Ser Glu Leu Thr Thr Ala Lys Glu His Leu Lys Glu Ala Gln Ala  
145 150 155 160

Glu Leu Gln Gly Cys Gln Lys Asn Leu Thr Ala Ala Leu Glu Lys Asn  
165 170 175

Asp Ser Leu Gln Lys Glu Leu Val Glu Val Tyr Lys Lys Ala Glu Ser  
180 185 190

Thr Ala Glu Asp Leu Lys Glu Gln Lys Gln Leu Val Ala Ser Leu Asn  
195 200 205

Lys Asp Leu Gln Ala Leu Glu Gln Gln Val Ser Lys Asp Lys Glu Ser  
210 215 220

Arg Lys Ser Leu Glu Arg Asp Leu Glu Glu Ala Thr Ile Ser Leu Asp  
225 230 235 240

Glu Met Asn Arg Asn Ala Val Ile Leu Ser Gly Glu Leu Gln Arg Ala  
245 250 255

Asn Ser Leu Val Ser Ser Leu Glu Lys Glu Lys Asp Val Leu Ile Lys  
260 265 270

Ser Leu Thr Asn Gln Arg Asn Ala Cys Lys Glu Ala Gln Asp Asn Ile  
275 280 285

Glu Asp Ala His Asn Leu Ile Met Lys Leu Gly Lys Glu Arg Glu Asn  
290 295 300

Leu Glu Lys Lys Gly Lys Lys Phe Glu Glu Glu Leu Ala Ser Ala Lys  
305 310 315 320

Gly Glu Ile Leu Arg Leu Lys Ser Arg Ile Asn Ser Ser Lys Val Ala  
325 330 335

Val Asn Asn Gly Pro Val Gln Lys Asp Gly Gly Glu Lys Lys Val Asn  
340 345 350

Pro Ser Lys Val Ala Val Asn Asn Glu Gln Ala Gln Lys Asp Glu Gly  
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Glu Asn Lys Val Thr Val Ser Ala Arg Lys Thr Val Arg Arg Arg Lys  
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Ala Asn Pro Gln  
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<212> DNA  
<213> Zea mays

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caatcaattg tctcctcaat ggagagcaaa ttggctgaaa atgaggcagc actttcattg 300  
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 20 25 30

Arg Gln Arg Glu Ser Ser Leu Gln Leu Val Gln Glu Gln Pro Pro Glu  
 35 40 45

Asn Pro Leu Leu Gly Phe Leu Gly Ile Val Gly Val Ala Ala Ser Gly  
 50 55 60

Val Leu Gly Gly Leu Tyr Gly Thr Ser Leu Gln Glu Glu Lys Ala Leu  
 65 70 75 80

Gln Ser Ile Val Ser Ser Met Glu Ser Lys Leu Ala Glu Asn Glu Ala  
 85 90 95

Ala Leu Ser Leu Met Arg Asp Asn Tyr Glu Lys Arg Leu Leu Glu Gln  
 100 105 110

Gln Ala Ala Gln Lys Lys Gln Ser Met Lys Phe Gln Glu Gln Glu Val  
 115 120 125

Ser Leu Ser Gly Gln Leu Ala Ser Ala Thr Lys Thr Leu Thr Ser Leu  
 130 135 140

Ser Glu Glu Phe Arg Lys Glu Lys Lys Leu Ala Glu Glu Leu Arg Asp  
 145 150 155 160



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Glu Ile Gln Arg Leu Glu Ser Ser Ile Thr Gln Ala Gly Ile Asp Asn  
 165 170 175  
 Asp Val Leu Glu Thr Lys Leu Glu Glu Lys Leu Gly Glu Ile Asn Phe  
 180 185 190  
 Leu Gln Glu Lys Val Ser Leu Leu Asn Gln Glu Ile Asp Asp Lys Glu  
 195 200 205  
 Lys His Ile Arg Glu Leu Ser Ala Ser Leu Ser Ser Lys Glu Val Asp  
 210 215 220  
 Tyr Gln Lys Leu Thr Ala Phe Thr Asn Gln Thr Lys Lys Ser Leu Glu  
 225 230 235 240  
 Leu Ala Asn Ser Arg Val Gln Gln Leu Glu Glu Glu Leu Ser Thr Thr  
 245 250 255  
 Lys Asn Ala Leu Val Ser Lys Ile Ser Ser Ile Asp Ser Leu Asn Ala  
 260 265 270  
 Lys Leu Glu Thr Leu Asn Ser Glu Lys Lys Lys Leu Thr Lys Lys Ile  
 275 280 285  
 Asn Glu Leu Ile Gln Glu Tyr Thr Asp Leu Lys Val Ala Ser Glu Thr  
 290 295 300  
 Arg Ala Ser His Asp Ser Lys Leu Leu Ser Glu Arg Asp Asp Leu Ile  
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 Lys Gln Leu Glu Glu Lys Leu Ser Val Ala Leu Thr Asp Ser Ser Lys  
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 Val Ser Gln Ile Ser Lys Leu Arg Glu Glu Ser Asn Glu Met Gln Val  
 405 410 415  
 Asp Leu Thr Asn Lys Leu Gly Glu Ala Glu Ser Leu Ser Lys Ala Leu  
 420 425 430  
 Ser Glu Asp Leu Ala Ser Val Asn Glu Met Val Gln Lys Gly Gln Glu  
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 Glu Leu Glu Ala Thr Ser Ile Glu Leu Ala Ser Ile Ala Glu Ala Arg  
 450 455 460  
 Asp Asn Leu Lys Lys Glu Leu Leu Asp Ala Tyr Lys Asn Leu Glu Ser  
 465 470 475 480  
 Thr Thr His Glu Leu Val Glu Glu Arg Lys Ile Val Thr Ala Leu Asn  
 485 490 495

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Lys Glu Leu Glu Ala Leu Ala Lys Gln Leu Gln Val Asp Ser Glu Ala  
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Arg Lys Ser Leu Glu Ser Asp Leu Glu Glu Ala Thr Lys Ser Leu Asp  
515 520 525

Glu Met Asn Asn Ser Ala Leu Leu Leu Ser Lys Glu Leu Glu Ser Thr  
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His Ser Arg Ser Ala Thr Leu Glu Ser Glu Lys Glu Met Leu Arg Lys  
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Ala Leu Ala Glu Gln Thr Lys Ile Thr Thr Glu Ala Lys Glu Asn Thr  
565 570 575

Glu Asp Ala Gln Asn Leu Ile Thr Arg Leu Glu Thr Glu Lys Glu Ser  
580 585 590

Phe Glu Leu Arg Cys Arg His Leu Glu Glu Glu Leu Ala Leu Ala Lys  
595 600 605

Gly Glu Ile Leu Arg Leu Arg Arg Gln Ile Ser Thr Asn Ser Ser Gln  
610 615 620

Lys Pro Arg Ala Arg Gly Pro Pro Glu Ala Ser Glu Thr Leu Lys Glu  
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Gln Pro Val Asn Asp Tyr Asn Gln Lys Thr Ser Gly Val Val Ala Gly  
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Thr Pro Gln Pro Val Lys Arg Thr Val Arg Arg Arg Lys Gly Gly Ala  
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<212> DNA  
<213> Oryza sativa

<220>  
<223> n= g, a, c or t

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tcttatctct aggcttcaga ctgagaagga gagttttgaa atgagggcta gacatcttga 180  
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<210> 24  
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<212> PRT  
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<220>  
<223> X= G or R

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Leu Ser Lys Ala Leu Ala Glu Gln Gln Lys Ile Thr Thr Glu Ala His  
20 25 30

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Glu Asn Thr Glu Asp Ala Gln Asn Leu Ile Ser Arg Leu Gln Thr Glu  
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 Lys Glu Ser Phe Glu Met Arg Ala Arg His Leu Glu Glu Glu Leu Ala  
           50                                  55                                  60  
 Leu Ala Lys Gly Glu Ile Leu Arg Leu Arg Arg Gln Ile Ser Thr Ser  
           65                                  70                                  75                                  80  
 Arg Ser Gln Lys Ala Lys Thr Leu Pro Asn Thr Asn Ala Ser Pro Glu  
                                   85                                  90                                  95  
 Val Ser Gln Ala Pro Xaa Arg Ala Gly Cys Glu  
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&lt;211&gt; 27

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Primer

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27

&lt;210&gt; 26

&lt;211&gt; 27

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence:Primer

&lt;400&gt; 26

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27